

## General

### Title

Asthma medication ratio: percentage of members 5 to 85 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year.

### Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

## Measure Domain

### Primary Measure Domain

Clinical Quality Measures: Process

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the percentage of members 5 to 85 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year.

Note: This measure requires that separate age ranges be reported for Medicaid and Medicare product lines. For Medicaid, report only members 5 to 64 years of age. For Medicare, report only members 18 to 85 years of age. Refer to the original measure documentation for details.

### Rationale

Medications for asthma are usually categorized into long-term controller medications used to achieve and maintain control of persistent asthma and quick-reliever medications used to treat acute symptoms and exacerbations (Scottish Intercollegiate Guidelines Network [SIGN] & British Thoracic Society, 2009). Appropriate ratios for these medications could potentially prevent a significant proportion of asthma-related costs (hospitalizations, emergency room visits, missed work and school days) (Akinbami et al., 2009).

## Evidence for Rationale

Akinbami LJ, Moorman JE, Garbe PL, Sondik EJ. Status of childhood asthma in the United States, 1980-2007. *Pediatrics*. 2009 Mar;123 Suppl:S131-45. [PubMed](#)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Scottish Intercollegiate Guidelines Network (SIGN), British Thoracic Society. British guideline on the management of asthma. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2009 Jun. 125 p. (SIGN publication; no. 101). [833 references]

## Primary Health Components

Persistent asthma; antiasthmatic combinations; antibody inhibitors; inhaled steroid combinations; inhaled corticosteroids; leukotriene modifiers; mast cell stabilizers; methylxanthines; short-acting inhaled beta-2 agonists

## Denominator Description

Members 5 to 85 years of age by December 31 of the measurement year with persistent asthma (see the related "Denominator Inclusions/Exclusions" field)

## Numerator Description

The number of members who have a medication ratio of 0.50 or greater during the measurement year (see the related "Numerator Inclusions/Exclusions" field)

## Evidence Supporting the Measure

### Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

### Additional Information Supporting Need for the Measure

- Asthma is a treatable, reversible condition that affects more than 25 million people in the United States. Managing this condition with appropriate medications could save the United States billions of dollars in medical costs (Centers for Disease Control and Prevention [CDC], 2011).
- The United States spent approximately \$56 billion on total medical costs for asthma in 2007, a 6 percent increase from 2002 (CDC, 2011).
- In 2010, 25.7 million Americans had asthma: 7 million children, 15.6 million adults under 65 and 3.1 million adults 65 and older (Akinbami et al., 2012).
- Asthma is responsible for 3,000 deaths annually (American Lung Association [ALA], 2012).
- More than 53 percent of asthmatic patients had an asthma attack in 2008 (CDC, 2011). In 2009, there were 479,300 asthma-related hospitalizations and 1.9 million asthma related emergency room (ER) visits (CDC, 2013).
- The prevalence and cost of asthma have increased over the past decade, demonstrating the need for better access to care and medication. Appropriate medication management for patients with asthma could reduce the need for rescue medication—as well as the costs associated with ER visits, inpatient admissions and missed days of work or school.

## Evidence for Additional Information Supporting Need for the Measure

Akinbami LJ, Moorman JE, Bailey C, Zahran HS, King M, Johnson CA, Liu X. Trends in asthma prevalence, health care use, and mortality in the United States, 2001-2010. NCHS Data Brief. 2012 May;(94):1-8. [PubMed](#)

American Lung Association (ALA). Asthma and children fact sheet. [internet]. Chicago (IL): American Lung Association (ALA); 2012 Oct [accessed 2015 Aug 04].

Centers for Disease Control and Prevention (CDC). Asthma's impact on the nation: data from the CDC National Asthma Control Program. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2013 [accessed 2014 Jun 09].

Centers for Disease Control and Prevention (CDC). CDC vital signs: asthma in the U.S. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2011 May [accessed 2014 Jun 09].

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

## Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

## Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

# State of Use of the Measure

## State of Use

Current routine use

## Current Use

not defined yet

# Application of the Measure in its Current Use

## Measurement Setting

Ambulatory/Office-based Care

Emergency Department

Hospital Inpatient

Hospital Outpatient

Managed Care Plans

## Professionals Involved in Delivery of Health Services

not defined yet

## Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

## Statement of Acceptable Minimum Sample Size

Unspecified

## Target Population Age

Age 5 to 85 years

## Target Population Gender

Either male or female

# National Strategy for Quality Improvement in Health Care

## National Quality Strategy Aim

Better Care

## National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

# Institute of Medicine (IOM) National Health Care Quality Report Categories

## IOM Care Need

Living with Illness

## IOM Domain

Effectiveness

## Data Collection for the Measure

### Case Finding Period

The measurement year and the year prior to the measurement year

### Denominator Sampling Frame

Enrollees or beneficiaries

### Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Institutionalization

Patient/Individual (Consumer) Characteristic

### Denominator Time Window

not defined yet

### Denominator Inclusions/Exclusions

Inclusions

Members 5 to 85 years of age by December 31 of the measurement year with persistent asthma.

Identify members as having persistent asthma who met at least one of the following criteria during both the measurement year and the year prior to the measurement year. Criteria need not be the same across both years.

At least one emergency department (ED) visit (ED Value Set), with a principal diagnosis of asthma (Asthma Value Set).

At least one acute inpatient encounter (Acute Inpatient Value Set), with a principal diagnosis of asthma (Asthma Value Set).

At least four outpatient visits (Outpatient Value Set) or observation visits (Observation Value Set), on different dates of service with any diagnosis of asthma (Asthma Value Set) *and* at least two asthma medication dispensing events (refer to Table MMA-A in the original measure documentation for a list of asthma medications). Visit type need not be the same for the four visits.

At least four asthma medication dispensing events (refer to Table MMA-A in the original measure documentation).

A member identified as having persistent asthma because of at least four asthma medication dispensing events, where leukotriene modifiers or antibody inhibitors were the sole asthma medication dispensed in that year, must also have at least one diagnosis of asthma (Asthma Value Set), in any setting, in the same year as the leukotriene modifier or antibody inhibitor.

#### Note:

Members must have been continuously enrolled during the measurement year and the year prior to the measurement year.

*Allowable Gap:* No more than one gap in continuous enrollment of up to 45 days during each year of continuous enrollment. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage during each year of continuous enrollment.

For Medicaid, report only members 5 to 64 years of age. For Medicare, report only members 18 to 85 years of age.

Refer to the original measure documentation for additional details.

#### Exclusions

Exclude members who met any of the following criteria:

Members who had any diagnosis from any of the following value sets, any time during the member's history through December 31 of the measurement year:

Emphysema Value Set

Other Emphysema Value Set

COPD Value Set

Obstructive Chronic Bronchitis Value Set

Chronic Respiratory Conditions Due to Fumes/Vapors Value Set

Cystic Fibrosis Value Set

Acute Respiratory Failure Value Set

Members who have no asthma medications (controller or reliever) dispensed (refer to Table AMR-A in the original measure documentation for codes to identify asthma controller and reliever medications) during the measurement year.

#### Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#)  to purchase HEDIS Volume 2, which includes the Value Set Directory.

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

Inclusions

The number of members who have a medication ratio of 0.50 or greater during the measurement year

To calculate the ratio for each member:

Count the units of controller medications (refer to Table AMR-A in the original measure documentation for a list of asthma controller and reliever medications) dispensed during the measurement year.

Count the units of reliever medications (refer to Table AMR-A in the original measure documentation) dispensed during the measurement year.

Sum the units of controller and reliever medications to determine units of total asthma medications.

Calculate the ratio of controller medications to total asthma medications.

Sum the total number of members who have a ratio of 0.50 or greater.

Note:

*Units of Medications:* When identifying medication units, count each individual medication, defined as an amount lasting 30 days or less, as one medication unit. One medication unit equals one inhaler canister, one injection, or a 30-day or less supply of an oral medication.

*Oral Medication Dispensing Event:*

One prescription of an amount lasting 30 days or less. To calculate dispensing events for prescriptions longer than 30 days, divide the days supply by 30 and round down to convert. Allocate the dispensing events to the appropriate year based on the date on which the prescription is filled. Use the Drug ID to determine if the prescriptions are the same or different.

Multiple prescriptions for different medications dispensed on the same day are counted as separate dispensing events. If multiple prescriptions for the same medication are dispensed on the same day, sum the days supply and divide by 30.

*Inhaler Dispensing Event:* All inhalers (i.e., canisters) of the same medication dispensed on the same day count as one dispensing event. Medications with different Drug IDs dispensed on the same day are counted as different dispensing events. Allocate the dispensing events to the appropriate year based on the date when the prescription was filled.

*Injection Dispensing Event:* Each injection counts as one dispensing event. Multiple dispensed injections of the same or different medications count as separate dispensing events. Allocate dispensing events to the appropriate year based on the date on which the prescription is filled.

Exclusions

Unspecified

Value Set Information

Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the [NCQA Web site](#)  to purchase HEDIS Volume 2, which includes the Value Set Directory.

## Numerator Search Strategy

Fixed time period or point in time

## Data Source

Administrative clinical data

Pharmacy data

## Type of Health State

Does not apply to this measure

## Instruments Used and/or Associated with the Measure

Unspecified

# Computation of the Measure

## Measure Specifies Disaggregation

Does not apply to this measure

## Scoring

Rate/Proportion

Ratio

## Interpretation of Score

Desired value is a higher score

## Allowance for Patient or Population Factors

not defined yet

## Description of Allowance for Patient or Population Factors

This measure requires that separate rates be reported for commercial, Medicaid, and Medicare product lines.

For Commercial, ages 5 to 85 as of December 31 of the measurement year. Report five age stratifications and a total rate:

- 5 to 11 years
- 12 to 18 years
- 19 to 50 years
- 51 to 64 years
- 65 to 85 years
- Total

For Medicaid, ages 5 to 64 as of December 31 of the measurement year. Report four age stratifications and a total rate:

- 5 to 11 years
- 12 to 18 years
- 19 to 50 years
- 51 to 64 years
- Total

For Medicare, ages 18 to 85 as of December 31 of the measurement year. Report three age stratifications and a total rate:

- 18 to 50 years
- 51 to 64 years
- 65 to 85 years
- Total

The total is the sum of the age stratifications for each product line.



## Standard of Comparison

not defined yet

## Identifying Information

### Original Title

Asthma medication ratio (AMR).

### Measure Collection Name

HEDIS 2016: Health Plan Collection

### Measure Set Name

Effectiveness of Care

### Measure Subset Name

Respiratory Conditions

### Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

### Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

### Funding Source(s)

Unspecified

### Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

### Financial Disclosures/Other Potential Conflicts of Interest

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## Endorser

National Quality Forum - None

## NQF Number

not defined yet

## Date of Endorsement

2014 Dec 23

## Adaptation

This measure was not adapted from another source.

## Date of Most Current Version in NQMC

2015 Oct

## Measure Maintenance

Unspecified

## Date of Next Anticipated Revision

Unspecified

## Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

## Measure Availability

Source available for purchase from the [National Committee for Quality Measurement \(NCQA\) Web site](#)

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For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: [www.ncqa.org](http://www.ncqa.org) .

## Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.  
National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: [www.ncqa.org](http://www.ncqa.org) .

## NQMC Status

This NQMC summary was completed by ECRI Institute on April 1, 2013.

This NQMC summary was updated by ECRI Institute on January 10, 2014, December 9, 2014, and again on January 4, 2016.

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## Production

## Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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